

REMARKS

Claims 2-5, 7, 8, 11, 12, 19 and 21-28 remain pending in this application. Claims 3 and 4 are withdrawn. Claims 2, 5, 7, 8, 11, 12, 19 and 21-28 are rejected. Claims 1, 6, 9-10, 13-18 and 20 are previously cancelled. Claims 5, 21 and 22 are amended herein to clarify the invention.

Applicant herein traverses and respectfully requests reconsideration of the rejection of the claims cited in the above-referenced Office Action.

Before addressing the rejections of record, a brief discussion of what are submitted by applicant as constituting the unique effects of the present invention is believed to be helpful in highlighting superior and unexpected results obtained by practice of the features claimed.

In accordance with the present invention, a preform glass element which, when placed in the mold, does not initially extend to the interior wall of the hole (opening) of the middle plate (intermediate restrictor). Thus, a gap is present therebetween prior to compression. At least a portion of a molding core is conformably received within the hole and is advanceable in a direction of the preform. The interior wall of the hole is of a substantially constant cross-section (eg., diameter), at least over the axial distance traversed by the molding core when advanced sufficiently to compress the glass preform. As such, when compressed, the glass material is initially caused to flow radially outward. Further extension of

the glass material in the radial direction, by further advancement of the molding core, is subsequently prevented by the inner peripheral surface of the hole of the middle plate, causing the glass to uniformly fill the cavity, and be pressed back by the side walls, and it is thought, to force the material up into the mold forms at a periphery thereof, insuring consistent molding integrity over a complete, or at least substantially complete, expanse of the lens array, even in a peripheral region . This novel, and unexpected combined effect is believed to be responsible for the superior characteristics of the resulting product, particularly, improved results in a periphery of the multi-lens matrix. While the combinations of references addressed below are alleged to individually teach various features of the claimed invention, applicant respectfully submits that the resultant effect of the invention in connection with a multi-lens array is synergistic, and therefore nonobvious, since nothing in any of the cited references suggests a reason providing any incentive for their combination.

Nonobviousness may be clearly shown where an inventor seeks to remedy a known problem, and does so by discovering a heretofore unknown source of the problem and finds a solution based upon the discovery of the problem source. *Eibel Process Co. v. Minnesota and Ontario Paper Co.*, 261 U.S. 45 (1923). Not one of the cited references discussed below recognizes or seeks to address the problem recognized and addressed by the present invention, relating specifically to a multi-lens array, and as stated at paragraph [0011] of the published application, by which

“an incomplete filling of the glass element into the cavities in the lens molding portion at the location away from the center can be prevented.”

Claims 2, 5, 7 12 and 19 are rejected as obvious over Shimizu et al. (JP 60-171234) in view of Budinski et al. (US 6,305,194) and Takano et al (JP 1226746) under 35 U.S.C. §103(a). The applicant herein respectfully traverses this rejection. For a rejection under 35 U.S.C. §103(a) to be sustained, the differences between the features of the combined references and the present invention must be obvious to one skilled in the art.

Claim 5 is amended to specify that the “first molding core has a radially outer dimension which receivably and conformably fits into the opening of said intermediate restrictor so as to be operable to traverse an axial extent of said inner peripheral surface during molding, said inner peripheral surface having a substantially constant diameter over said axial extent.” Because of this feature, the results obtained when molding a multi-lens array are quite dissimilar from those achieved by the Shimizu et al. reference, in which a stepped inner region allows flow of the compressed lens material to flow into the annular upper space created by the step. Because material is allowed to escape peripherally into this annular space, thereby relieving pressure in the periphery, applicant respectfully submits that the contrasting counter-pressure encountered in practice of the claimed invention of claim 5 in the peripheral region of the multi-lens matrix, and which is thought to be attributed, at least in part, with resulting in the superior characteristics observed, is

not present in Shimizu et al.. Moreover, applicant notes that since Shimizu et al. is directed to molding of a single lens, the problem solved by the inventive approach, i.e., improved lens quality at a periphery of a multi-lens matrix, is of no concern in addressing the challenges faced by the present inventor in solving the problems heretofore encountered in connection with a multi-lens array, for example, by practice of the method disclosed in Budinski et al., i.e., lack of consistent uniformity of quality of more than one lens over an entire array.

Takano et al., directed to a single lens molding method, fails to adequately supplement the missing motivation and reasonably expected results obtained by the claimed invention, directed to molding of a multi-lens array.

Thus, it is respectfully submitted that the rejected claims are not obvious in view of the cited references for the reasons stated above. Reconsideration of the rejections of claims 2, 5, 7 12 and 19 and their allowance are respectfully requested.

Claim 8 is rejected as obvious over Shimizu et al. (JP 60-171234) in view of Budinski et al. (US 6,305,194) and Takano et al (JP 1226746), and further in view of Takagi et al. (US 5,817,616) under 35 U.S.C. §103(a). The applicant herein respectfully traverses this rejection.

Takagi et al. is also directed to a single lens molding method, and therefore the features and results of parent claim 5 are not made obvious by supplementation with the reference disclosure. Takagi et al. could not provide reasonable likelihood

In light of the foregoing, the application is now believed to be in proper form
for allowance of all claims and notice to that effect is earnestly solicited.

Respectfully submitted,
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enc: Request for Continued Examination (RCE).